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ABSTRACT

Intended for use by the Computerized Documentation System (CDS), the Unesco version of ISIS (Integrated Set of Information Systems)--originally developed by the International Labour Organization--was developed in 1975 and named CDS/ISIS. This system has a comprehensive collection of programs for input, management, and output, running in batch or online mode. The structure of the file makes it possible to add, modify, or delete whole records or parts of records and keep the database current through the use of search terms and boolean expression. It also enables users to gain access to the master file via any element in the database; to build indexes from descriptors, thesaurus terms, or free text; to specify sorting and printing instructions; and to create a variety of print formats for specialized types of output. Enhanced versions of CDS/ISIS issued in 1983 and 1984 include a number of new state-of-the-art features. The 47 databases within the Unesco Secretariat that are run by CDS/ISIS cover a wide range of applications, including the processing, storage, and retrieval of non-bibliographic data. Since 1977, the system has been distributed to over 100 national institutions or international organizations having the required hardware and software. Major uses by Unesco include the maintenance of Unesco Bibliographic Data Base (UNESBIB), updating the Unesco Thesaurus, and technical support for the Integrated Documentation Network. Unesco also has a version of CDS/ISIS adapted to run on micro and minicomputers. Written in PASCAL, the first release of this version runs on DEC PDP 11 compatible equipment under the operating system RCX11-M and IBM PC under DOS. A second version for the UNIX operating system is foreseen, and work is being undertaken to establish software for processing non-Roman characters, e.g., Russian and Arabic. (BBM)

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Paper by the Division of the Unesco Library,
Archives and Documentation Services (LAD)

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Unesco Integrated Documentation Network: Computerized Documentation System (CDS)

Paper by the
Division of the Unesco Library, Archives
and Documentation Services(LAD)

Introduction

The objectives of the Unesco Computerized Documentation System developed over the years 1969-1971 were primarily to achieve a) the systematic bibliographic control of the documents and publications of Unesco, its regional offices and affiliated institutes; b) to provide information for the Member States on the Unesco programme as reflected in its documentation; c) to develop information and documentation software, for use within the Unesco Secretariat, in organizations and institutions of the UN system and its Member States; and d) to act as a demonstration and training centre for the application of advanced computerization techniques in information processing, storage and retrieval. When Unesco decided, in 1975, to replace its ICL mainframe computer by an IBM model, it was faced with the problem of converting the software package it had developed so that it would operate on IBM equipment. Rather than rewrite the existing programs, it was decided to adopt an early version of the ISIS (Integrated Set of Information System) software which had been developed by the International Labour Organization (ILO) in the late 1960's.

An important consideration in making this choice was that ISIS was a system developed by a United Nations Agency and was beginning to be increasingly used by institutions in both developing and developed countries. It soon became clear, however, that a major re-design of ISIS was required, as the ILO version lacked many features available in the Unesco CDS system. Development work on ISIS began at Unesco early in 1975 and the first version of the new system was operational by the end of the same year. The Unesco version of ISIS was named CDS/ISIS.

Structure and applications of the system CDS/ISIS

CDS/ISIS has a comprehensive collection of programs for input, management and output, running in batch or on-line mode. The key to the system is the file structure, which consists of a number of computer files that are logically related, but physically distinct. With this structure it is possible to add, modify or delete whole or parts of records using the batch or on-line mode and to keep the data base current through the use of search terms and Boolean expression. The file structure also enables users to gain access to the Master file via any element in the data base; to build indexes from descriptors, thesaurus terms, or free text; to specify sorting and printing instructions, and to create a variety of print formats for specialized types of output. One of the principal advantages of CDS/ISIS is that the same set of computer programs is used to manipulate various data bases, each of which may be composed of quite different data content. This means that expensive reprogramming need not be done each time a new project involving the the establishment of a new data base is undertaken.

By the end of 1983, Unesco was announcing release 4.4 of the CDS/ISIS system: a highly sophisticated generalized on-line information storage and retrieval system, including state-of-the art features, such as advanced file structure and access method (VSAM) powerful full screen editor for data entry and up-date, on-line thesaurus creation and maintenance, thesaurus aided indexing and retrieval, extended search language, and specialized library applications such as acquisitions and periodical circulation. The new release 4.5 announced at the of 1984 contains additional new features such as: on-line validation, help assistance, and data manipulation language.

As CDS/ISIS developed and became a reliable operational system, it began to be used more and more by other units of the Unesco Secretariat, particularly for the processing, storage and retrieval of non-bibliographic data. To date, 47 data bases are run by CDS/ISIS within the Unesco Secretariat covering a wide range of applications such as: the Unesco Mailing list which has approximatively 100.000 addresses; he Unesco Personnel Roster; the DARE data bank which includes experts, institutions and research projects in the field of social sciences, as well as social science periodicals and publications reporting research findings.

CDS/ISIS system transfer

The interest raised by CDS/ISIS within the Secretariat was paralleled by an increasing number of requests for the software from institutions in the Member States and other United Nations organizations. Starting in 1977, Unesco therefore developed a programme to distribute CDS/ISIS, free of charge, to qualified non-profit institutions having the required hardware and software. To date, CDS/ISIS has been distributed to over 100 national institutions or international organizations.

After the signature of a formal transfer agreement, project personnel of the receiving institution are instructed in the operation of the CDS/ISIS system. Normally such instruction takes the form of a three-week training course designed to enable the participants to install and use the package in a relatively short time. Although, after the training course, the new installation should be autonomous and require no further direct assistance, Unesco will continue to provide technical support for each installation operating CDS/ISIS. All users are regularly kept informed of the system developments through circular letters, technical notes covering specific topics, guidelines and procedures.

Unesco Bibliographic Data Base (UNESBIB) and the Unesco Thesaurus

CDS/ISIS was primarily designed to control bibliographically the documentary output of the Organization as well as the materials received in the Unesco Library. To date, the Unesco Bibliographic Data Base (UNESBIB) - the largest data base run by CDS/ISIS within Unesco since 1972 - comprises more than 62.000 references. All documents, publications and periodicals, cited in the Unesco List of Documents and Publications (ULDP), the main printed product of the data base, are available in microfiche form in English, French and Spanish. The language of the Unesco Bibliographic Data Base (UNESBIB) is English. Each bibliographic unit processed is described on the one hand in its physical form through descriptive cataloguing, on the other hand by its content through indexing and abstracting (only certain types of documents are abstracted).

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The subject coverage of UNESBIB is as follows: education 50 percent; science and technology 10 percent; social sciences and humanities 15 percent; culture 10 percent; communication 10 percent; and information, libraries and archives 5 percent.

The basic tool used in indexing is the Unesco Thesaurus which covers all the fields of the UNESBIB. The French version of the Unesco Thesaurus was published in 1983 and the Spanish version at the end of 1984. Since that time, the Unesco Thesaurus has been kept up to date on line in all three versions. It should be added that ALECSO has requested the rights and permission to translate the Unesco Thesaurus into Arabic.

Unesco Integrated Documentation Network

Unesco is now setting up an Integrated Documentation Network, technically supported by the CDS/ISIS system.

The main objective of the Network is a more rational use of the Organization's documentary resources, which are rich and numerous, in order to bring them to everybody's attention. The Unesco Integrated Documentation Network has been defined as a decentralized system which on the one hand uses common processing methodology and retrieval tools (CDS/ISIS descriptive cataloguing, indexing and retrieval manuals), and on the other hand enables Unesco Sectoral Documentation Centres, as well as the documentation centres in Unesco regional offices and affiliated institutes, to control and process appropriate materials, mainly external materials which it receives from various sources and which have not already been processed by the Central System.

The Sectoral Documentation Centres and Regional Offices and affiliated institutes' documentation centres reflect the "discipline-oriented" nature of the Unesco structure: education, science and technology, social sciences and humanities, communication, culture, information, libraries and archives. As a result, the Unesco Integrated Documentation Network aims at establishing a balance between the centralization and the decentralization of documentation services, allowing the Organization to first channel the documentation flow along the lines of a given discipline and to make a local decision on what to put

into the data base; secondly to ensure the speedy processing of new materials and the up-dating of the data bases; and finally to promote a close relationship with users by effectively serving them with relevant information. Each documentation centre participating in the Network will provide: 1) Reference and inquiry services that answer requests and/or provide relevant Unesco publications and documents; 2) Bibliographic services, including (a) manual/computerized literature searches, (b) computer-produced bibliographies (retrospective search services), and (c) selective dissemination of information (SDI) services; 3) Dissemination of information, including distribution of accession lists prepared by the documentation centres and/or provision of lists of secondary literature; 4) Adjunct services, including (a) editing (microthesauri, directories, newsletters, etc) and(b) provision of mailing lists, list of meetings, experts, etc.

The Unesco Thesaurus is considered the basic terminological reference work to be used within the Unesco Integrated Documentation Network, either alone or in conjunction with other thesauri designed to cover specific subject fields. It should be noted that Unesco and IBE - IBE having adopted the CDS/ISIS system in 1981 - have agreed to make the Unesco Thesaurus and the IBE/Unesco Education Thesaurus compatible.

CDS/ISIS for micro and minicomputers

In view of the extension of the Unesco Integrated Documentation Network to the regional offices and the increasing need for smaller libraries or documentation centres in developing countries (which can obviously not afford the cost of mainframe computers) to have access to modern information handling technology, Unesco has a version of CDS/ISIS adapted to run on micro and minicomputers. Particular attention has been paid, in developing this version, to ensure, to the largest possible extent, its "portability", i.e. its ability to run not only on different manufacturers' hardware, but also to run on different types of computers. The selected design, in fact, allows the system to run on micro and minicomputers and mainframes as well.

The first release of this version is now available. This release runs on DEC PDP 11 compatible equipment under the operating system RCX11-M and IBM PC under DOS. However, as the programs are written in PASCAL, a good level of portability will already exist. The CDS/ISIS micro/mini version is a new driven system with a short description of each menu option as well as possible prompts that you may receive. To choose one of the options you just need to enter the corresponding option identifier character. All system programs are fully interactive and multilingual. The latter facility is particularly interesting as it allows you to select the language in which the system menus and messages will be displayed (provided of course that the language is implemented at the installation).

A second version is foreseen for the UNIX operating system to further improve its portability. Like the mainframe version, the CDS/ISIS micro/mini version will also be made available free of charge to qualified non-profit institutions in the Member States. The micro/mini version is fully compatible with the version currently used in Unesco and in the Member States, it has the same capabilities for handling the ISO-2709 standard format for information interchange as well as the UNISIST Reference Manual specifications.

This CDS/ISIS software develppment will enable smaller libraries in the Member States and Unesco Regional Offices, participating in the Unesco Integrated Documentation Network, to have easy access to computerized information processing technology and methodology already operational in the Secretariat - The Unesco Bibliographic Data Base (UNESBIB), the Unesco Personnel Roster, Unesco Mailing lists, etc. - and also to use the same hardware for other applications, such as text processing and office management. Work is being undertaken to establish software suitable for processing non-Roman characters, such as Russian and Arabic.

In conclusion, in addition to the transfer of the CDS/ISIS software, the Division of the Unesco Library, Archives and Documentation Services makes the Unesco Bibliographical Data Base (UNESBIB) and the Unesco Thesaurus in machine-readable form, available free of charge, to institutions with adequate computer facilities in the Member States and regional and international organizations.